17. $1^3 + 2^3 + 3^3 + 4^3 + 5^3 + \ldots\ldots\ldots + 101^3$

(a) 0 (b) 1 (c) 3 (d) 4

$n \uparrow$

Rules

$$\left[1^3 + 2^3 + \cdots + n^3\right]$$

$$\Rightarrow \left[\frac{n(n+1)}{2}\right]^2$$

$$\left[\frac{101 \times 102}{2}\right]^2$$

$$\left(101 \times 51\right)^2$$

$$\left(\cdots 1\right)^2$$

$= \cdots 1$ Ans.

18. $1^4 + 2^4 + 3^4 + 4^4 + 5^4 + \ldots\ldots\ldots + 75^4$

(a) 0 (b) 1 (c) 3 (d) 4

$(1^4+2^4+3^4+5^4+6^4+7^4+8^4+9^4+10^4)$ $+4^4$

$(1+6+1+5+6+1+6+1+0)$ $+6$

(3×7)

$(1^4 \longrightarrow 70^4) + (71^4 \longrightarrow 75^4)$

$1 + 9$

0 Ans

$71^4 + 72^4 + 73^4 + 74^4 + 75^4$

$1+6+1+6+5$

19

$1 \rightarrow 10 = 3$
$11 \rightarrow 20 = 3$
$21 \rightarrow 30 = 3$
$31 \rightarrow 40 = 3$
$41 \rightarrow 50 = 3$
$51 \rightarrow 60 = 3$
$70 = 3$

19. $69^{67^{68}}$

(a) 8 (b) 9 (c) 7 (d) 1

$9^1 = 9$

$9^2 = 81$

$9^3 = 729$

$9^4 = \ldots 1$

68

67

69 → 9 विषम /odd

$= \_ \_ \_ \_ 9$

20. $74^{73^{72^{71}}}$

(a) 8 ~~(b) 4~~ (c) 7 (d) 6

$4^1 = 4$

$4^2 = 16$

$4^3 = 64$

$4^4 = 256$

71

72

73

74

4 odd / विषम

$\left[\frac{n(n+1)(2n+1)}{6}\right]$

$1^2 + 2^3 + \cdots + n^2$

21. Find the unit digit number of $2^{3^{4^5}}$

~~A. 2~~ ~~B. 4~~ ~~C. 6~~ D. 8

[शेषफल प्रमेय
Rem. Theo.

$\frac{3^{4^5}}{4} = -1^{\text{even}} = ①$ शेष

22. Find the last digit of $225^{66^{33}}$?

A. 0 B. 3 C. 4 D. None of the above

$225^{66^{33}} = \underline{5}$

Ans = (5)

23. Find the last digit of 259^{53^5} ?

A. 1 B. 3 C. 9 D. None of the above

259^{53^5}

9 odd । विषम

24. Find the last digit of $334^{22^{45}}$?

A. 2 B. 4 ~~C. 6~~ D. 8

$4^1 = 4$

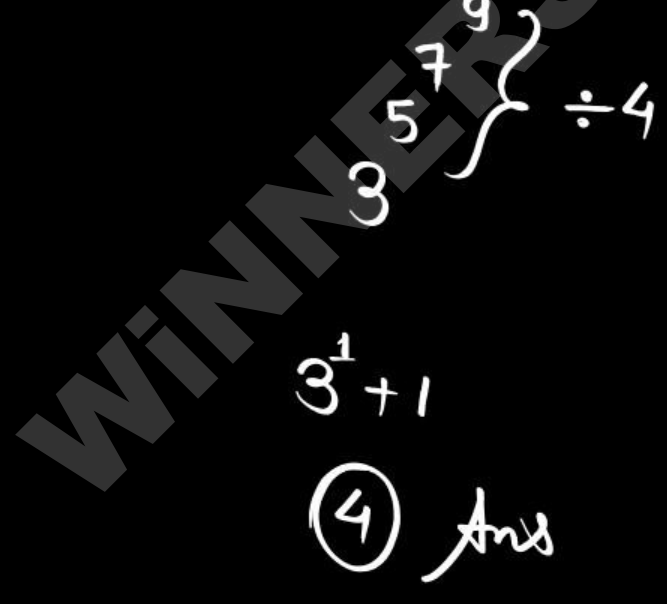
$4^2 = 6$

$334^{22^{45}} =$

$4^{\text{सम/even}}$

25. Find the last digit of $3^{5^{7^9}} + 1 = ?$

A. 2 B. 4 C. 6 D. 8



26. Find 10th Place / दहाई अंक - 2^{1001}

(a) 0 (b) 1 ~~(c) 5~~ (d) 4

$2^{1000} \times 2^{1}$

$(2^{10})^{100} \times 2^{1}$

$(1024)^{100} \times 2$

..... 76×2

152

$24^{1} = 24$

$24^{2} = 576$

$24^{3} = 13824$

$24^{4} = \ldots\ldots 76$

Number of Zeros

शून्यो की संख्या

125×12

$5 \times 5 \times 5 \times 2 \times 2 \times 3$

--- 00

$25 \times 12 =$

$5 \times 5 \times 2 \times 2 \times 3$

00

5 × सम (even) = 0

5 × विषम (odd) = 5

5 × सम × विषम = 0
e o

1. शून्यों की संख्या ज्ञात कीजिए / **Find number of Zeros in**

$75 \times 256 \times 2250 \times 79 \times 88$

25×3 | 225×10

5×5 | $25 \times 9 \times 5 \times 2$

$5 \times 5 \times 9 \times 5 \times 2$

$2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 256$

- - - - 00000

(a) 5
(b) 6
(c) 7
(d) 8

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